Amendments to the Claims

13. (New) An audio signal recording and reproducing system comprising:

first means for implementing matrix operation among first multiple-channel digital audio signals to generate second multiple-channel audio signals correlating with each other, the first multiple-channel digital audio signals relating to a same sampling frequency;

a lossless encoder subjecting the second multiple-channel signals to lossless encoding to convert the second multiple-channel signals into an encoding-resultant signal from which a decoding side can reproduce the second multiple-channel audio signals;

second means provided in the lossless encoder for selecting a first sample among samples of each of the second multiple-channel audio signals for every prescribed interval of frame;

third means provided in the lossless encoder for selecting one from each channel's different linear prediction methods and predictively encoding each of the second multiple-channel signals according to the selected one of each channel's different linear prediction methods, wherein each channel's different linear prediction methods are of predicting each of the second multiple-channel audio signals from a past condition of each of the second multiple-channel audio signals to generate each channel's different prediction signals for each of the second multiple-channel audio signals, and generating each channel's prediction-error signals representing differences between each of the second multiple-channel audio signals and each channel's different prediction signals respectively, and wherein each channel's linear prediction method selected by the third means generates a smallest of each channel's prediction-error signals;

fourth means provided in the lossless encoder for generating a signal of a predetermined format having a header information area and a user data area, and

loading the user data area with the first samples selected by the second means, the smallest each channel's prediction-error signal generated by the third means, and an information piece representing each channel's linear prediction method selected by the third means;

recording means for recording said signal on a recording medium;

a lossless decoder subjecting the input audio signal to lossless decoding to reproduce original audio information therefrom;

extracting means provided in the lossless decoder for extracting the smallest each channel's prediction-error signal;

calculating means provided in the lossless decoder for calculating a prediction value of the each channel from the smallest each channel's prediction-error signal extracted by the extracting means; and

reproducing means for reproducing the first multiple-channel audio signals from the prediction values calculated by the calculating means.

- 14. (New) An audio signal recording and reproducing system as recited in claim 13, wherein the signal of the predetermined format contains an information piece representing a frame header of said frame.
- 15. (New) A method of network-based communication, comprising the steps of: receiving a signal of a predetermined transmission packet format from a communication line, wherein the signal has been generated by an audio signal encoding apparatus comprising:

first means for implementing matrix operation among first multiple-channel digital audio signals to generate second multiple-channel audio signals correlating with each other, the first multiple-channel digital audio signals relating to a same sampling frequency;

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a lossless encoder subjecting the second multiple-channel signals to lossless encoding to convert the second multiple-channel signals into an encoding-resultant signal from which a decoding side can reproduce the second multiple-channel audio signals;

second means provided in the lossless encoder for selecting a first sample among samples of each of the second multiple-channel audio signals for every prescribed interval of frame;

third means provided in the lossless encoder for selecting one from each channel's different linear prediction methods and predictively encoding each of the second multiple-channel signals according to the selected one of each channel's different linear prediction methods, wherein each channel's different linear prediction methods are of predicting each of the second multiple-channel audio signals from a past condition of each of the second multiple-channel audio signals to generate each channel's different prediction signals for each of the second multiple-channel audio signals, and generating each channel's prediction-error signals representing differences between each of the second multiple-channel audio signals and each channel's different prediction signals respectively, and wherein each channel's linear prediction method selected by the third means generates a smallest of each channel's prediction-error signals;

fourth means provided in the lossless encoder for generating a signal of a predetermined format having a header information area and a user data area, and loading the user data area with the first samples selected by the second means, the smallest each channel's prediction-error signal generated by the third means, and an information piece representing each channel's linear prediction method selected by the third means; and

recovering said signal of the predetermined format generated by the lossless encoder from the signal of the transmission packet format.

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16. (New) A method of network-based communication as recited in claim 15, wherein the signal of the predetermined format contains an information piece representing a frame header of said frame.

Amendments to the Specification

Insert after the title of the invention:

RELATED APPLICATIONS

This application is a divisional of U.S. application No. 10/096,276, filed March 13, 2002 which in turn is a divisional of U.S. application No. 09/394,688, filed September 13, 1999 now U.S. patent number 6,463,410.

Page 46, third full paragraph:

The embodiment of Fig. 15 includes a lossless encoder 2E and a lossless decoder 3E which replace the lossless encoder 2D and the loss lossless decoder 3D (see Fig. 1) respectively. The lossless encoder 2E follows a channel correlation circuit "A". The lossless decoder 3E precedes a channel correlation circuit "B".

Respectfully submitted,

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